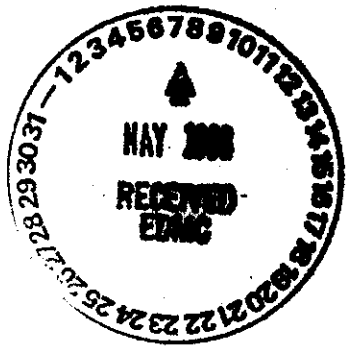
0049119

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

May 1, 1998



Mr. John D. Wagoner
U.S. Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, WA 99352-0550

Dear Mr. Wagoner:

Re: Issuance of State Waste Discharge Permit ST 4509

Enclosed is your State Waste Discharge Permit ST 4509 (Cooling Water and Condensate Discharges) which has been issued in accordance with Revised Code of Washington (RCW) 90.48. Also enclosed is the Fact Sheet that contains the Washington State Department of Ecology's (Ecology) responses to the comments received during the public comment period of the draft permit.

In response to passage of Initiative 97, Ecology adopted a wastewater discharge permit fee regulation (Chapter 173-224 of the Washington Administrative Code). You will be receiving periodic bills for your permit from Ecology's Lacey office.

Submission of an application for permit renewal or continued discharge must be received by Ecology no later than 180 days prior to your permit expiration date (see General Condition G5). Please contact the Ecology permit coordinator for an application form.

This permit can be appealed. Your appeal must be filed with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA 98504-0903 within 30 days of the receipt of the permit. At the same time, your appeal must be sent to the Department of Ecology, c/o Enforcement Officer, P.O. Box 47600, Olympia, WA 98504-7600, and to Ecology's Nuclear Waste Program, 1315 West Fourth Avenue, Kennewick, WA 99335-6018. Your appeal alone will not stay the effectiveness of this permit. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with Chapter 43.21B RCW.

Any appeal must contain the following in accordance with the rules of the hearing boards:

A. The appellant's name and address;
B. The coverage date and number of the permit appealed;
C. A description of the substance of the permit coverage that is the subject of the appeal;
D. A clear, separate, and concise statement of each error alleged to have been committed;
E. A clear and concise statement of facts upon which the requester relies to sustain such statements of error; and
F. A statement setting forth the relief sought.

If you have any questions regarding this action, please contact Dave Dougherty at (509) 736-3047.

Sincerely,

Michael A. Wilson, Program Manager
Nuclear Waste Program

MW:DD:ch
Certified Mail
Enclosures

cc w/ enc.: Liz Bowers, USDOE
Jim Rasmussen, USDOE
Administrative Record: Liquid Effluents Consent Order

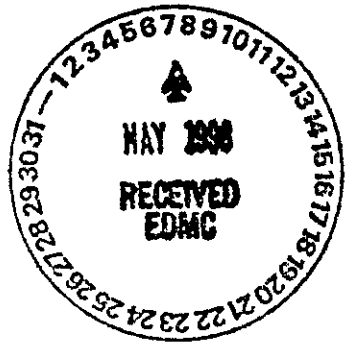
cc w/o enc.: Doug Sherwood, EPA
Greg Sinton, USDOE
Alex Teimori, USDOE
Bill Adair, FDH
J.R. Wilkinson, CTUIR
Donna Powaukee, NPT
Russell Jim, YIN
Mary Lou Blazek, ODOE

bcc w/ enc.: Dave Dougherty, Ecology
Joe Ortiz, Ecology
Bev Poston, Ecology
Central Files: WQ/State Waste Discharge Permit/ST4509/216 Permit/ Final Permit

bcc w/o enc.: Steve Alexander, Ecology
Ron Skinnarland, Ecology
Steve Skurla, Ecology

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT NO. ST 4509

ISSUED TO UNITED STATES DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON



BY STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
KENNEWICK, WASHINGTON

TABLE OF CONTENTS

1.0 INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 4509. The Washington State Department of Ecology (Ecology) is proposing to issue this permit to the U.S. Department of Energy, Richland Operations Office (Permittee), which will allow discharge of wastewater to the ground and ground waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix B--Public Involvement Information.

The fact sheet and draft permit have been reviewed by Ecology and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

2.0 GENERAL INFORMATION

Applicant:	United States Department of Energy, Richland Operations Office
Facility Name and Address:	Hanford Site P.O. Box 550 Richland, Washington 99352
Type of Facility:	Cooling Water and Condensate Discharges
Discharge Location:	Hanford Site (All areas controlled by the Permittee)

Contact: Alex Teimouri
Permits and Compliance Assessment
Environmental Assurance, Permits and Policy Division
U.S. Department of Energy, Richland Operations Office
(509) 376-6222

Responsible Official: J.E. Rassmussen, Director
Environmental Assurance, Permits and Policy Division
U.S. Department of Energy, Richland Operations Office
(509) 376-5441

3.0 BACKGROUND INFORMATION

On December 23, 1991, the Permittee and Ecology agreed to adhere to the provisions of the Department of Ecology Consent Order No. DE 91NM-177 (Consent Order). The Consent Order lists regulatory milestones for liquid effluent streams at the Hanford Site and requires compliance with the permitting requirements of Washington Administrative Code (WAC) 173-216 or WAC 173-218 where applicable.

Hanford Site liquid effluent streams discharging to the soil column and ground water were categorized in the Consent Order as Phase I Streams, Phase II Streams, and Miscellaneous Streams. Phase I and Phase II Streams were streams identified as contaminated or potentially contaminated. Miscellaneous Streams are those liquid effluent streams discharged to the ground that were not categorized as Phase I or Phase II Streams.

Miscellaneous Streams discharging to the soil column and ground water on the Hanford Site are subject to the requirements of several milestones identified in the Consent Order. The *Plan and Schedule for Disposition and Regulatory Compliance for Miscellaneous Streams* (DOE/RL-93-94, Rev. 1) (Plan and Schedule) provides a plan and schedule for the disposition of Miscellaneous Streams to satisfy one of the Consent Order requirements. The disposition of Miscellaneous Streams is based on compliance with the *Hanford Federal Agreement and Consent Order* (Tri-Party Agreement), the Consent Order, WAC 173-216, WAC 173-218, and RCW 90.48.

To facilitate the permitting process the Plan and Schedule divided most of the Miscellaneous Streams into four separate categories. Each category of similar streams will be permitted as a group. One categorical permit application will be submitted for each of the categories. One

application is due each year, starting in 1995. The first of the applications was submitted as planned, and State Waste Discharge Permit ST 4508 was issued on May 30, 1997 to cover the first category of streams (hydrotest, maintenance, and construction discharges). The second application was then submitted in September 1996, and is the basis of this Fact Sheet and draft permit. The third application, due in September of 1997, has been eliminated due to stream reductions on the Hanford Site. The fourth scheduled application is due in September 1998, and will cover storm water discharges to ground at Hanford.

The process to permit a group of streams in one "categorical permit" is based on an innovative agreement between Ecology and the Permittee and is not based on Ecology Water Quality Program policy or on the "Implementation Guidance for the Ground Water Quality Standards." Categorical permits are unique to the Hanford Site clean up, and are not used elsewhere in the state. They are intended to provide compliance with regulations while providing a streamlined and cost-effective permitting approach.

The Plan and Schedule states that from the quantitative inventory, the second categorical WAC 173-216 state waste discharge permit application will be submitted for cooling water and condensate discharges. Based on the state waste discharge permit application submitted to Ecology by the Permittee, a draft State Waste Discharge Permit was developed for cooling water and condensate discharges on the Hanford Site. This Fact Sheet contains an explanation of the draft categorical State Waste Discharge Permit for cooling water and condensate discharges on the Hanford Site.

The Plan and Schedule defined parameters that discharges must meet to be covered by the draft categorical State Waste Discharge Permit. Each discharge must be less than 10 gallons per minute, averaged annually, and less than 150 gallons per minute instantaneously to be covered by the draft permit. Each discharge is also required to meet WAC 173-200 Ground Water Quality Criteria (GWQC) to be covered by the draft permit. Discharges expected to have a contaminant exceeding the GWQC solely because the source water has a contaminant that exceeds one or more of the GWQC would still be covered by the draft permit. Cooling water and condensate discharges that do not meet the defined parameters will need to apply for separate State Waste Discharge Permits.

4.0 DESCRIPTION OF PROCESSES

This section describes the types of processes that generate the wastewater streams covered under this permit. Wastewater from all cooling water and condensate discharge activities are discharged to the soil column.

4.1 Cooling Water Discharges

Cooling water discharges covered by the draft permit include discharges from heat generating systems that use water to cool parts of the equipment. Discharges of cooling water from systems such as air compressors, diesel engines, air conditioning, evaporative cooling, and ice machines are included in this permit.

Air compressors are used throughout the Hanford Site to provide dry compressed air to equipment and/or systems. When an air stream is compressed, the compression produces large amounts of heat; therefore, the equipment and the air stream leaving the compressor cylinder must be cooled before being used. Many types of compressors use a water-filled cooling jacket to cool the system. The water discharged from the cooling jacket becomes a wastewater stream. The cooling system is usually a once-through, non-contact system. The source water used is potable water and the flow can range from 0.01 to 5 gallons per minute (gpm).

Diesel engines are used throughout the Hanford Site and are used to provide emergency backup for electrical or steam driven systems in case of energy or operational failure of the primary systems. A water cooling system often is used to extract excess heat from the engine. The cooling system is a once-through, non-contact system. The source water used is potable or surface water and the volume of wastewater produced can be expected to be less than 0.50 gpm.

Air conditioning uses a compressor and a heat exchanger to cool an incoming air stream. This process generates heat, which is dissipated from the system using a once-through, non-contact cooling system. The source water is potable water and the seasonal flow has a yearly average of less than 0.01 gpm.

Evaporative cooling is another form of air conditioning, that uses the cooling effect of evaporating water to cool a recirculating water stream, which in turn cools an air stream via a heat exchanger. The source water is potable water and the seasonal flow averages around 0.13 gpm.

Ice machines use a cooling jacket to dissipate the heat generated during the refrigerant cycle. The source water used is potable water and the volume generated is less than 2.0 gpm.

4.2 Condensate Discharges

Condensate discharges covered by the draft permit include discharges from systems such as steam lines, steam heating systems, air compressors, air conditioning, ventilation, and ice machines. Steam condensate is formed when there is a temperature differential between the

steam temperature and the temperature of ambient air. Steam is provided to facilities by boilers. Steam is produced from potable water that has been sent through water softener systems. Steam condensate that is discharged to an injection well is not covered by this draft permit, since it is registered under WAC 173-218. Other steam condensate discharges from transfer lines, building heating equipment , and tank heating jackets, are covered by this draft permit. The condensate is usually discharged by valves, known as steam traps. Steam condensate generated by the transfer lines vary from 0.10 to 0.80 gpm; from building heat equipment the volume is less than 0.30 gpm; and from tank jackets the volume is about 0.05 gpm.

The operation of air compressors generate condensate from the water vapor contained in ambient air. The volume can range from 0.01 gpm to 5.0 gpm. Air conditioning also generates condensate from water vapor contained in ambient air. The yearly average of this seasonal flow is less than 0.01 gpm. Ventilation systems also produce condensate from ambient air in stack demisters. Ice machines produce less than 2.0 gpm of condensate from water vapor in ambient air.

4.3 Pumps

Pumps are used throughout the Hanford Site for providing water to a variety of systems and/or equipment. Pump waste water is produced by either necessary cooling of the pump driver (diesel motors) or from packing seal leaks. The packing leaks are groundwater, surface water, or potable water and range from 0.01 to less than 1.0 gpm.

4.4 Valves

Water lines use several different types of valves to control the pressure and flow of the water in the lines. Many of these valves produce a water discharge during operation. Pressure relief valves, control valves and vent valves all contribute to the waste water discharge. The source water is potable water, groundwater, or surface water. All types of valves listed have expected discharges of 1.0 gpm or less.

4.5 Water Tanks

Potable water stored in water tanks is allowed to discharge to help eliminate mineral and bacteria buildup within the tanks and to prevent freezing. This water is discharged continuously at low volumes throughout the year. Other "tank" discharges that fall within this category include an elevator shaft that may receive a water discharge, and quench tank cooling water used to cool carbon and stainless steel. Total flow from these sources is less then 10 gpm.

5.0 SITE DESCRIPTION

The draft permit is for discharges on the Hanford Site (Figure 1). The applicability of the draft permit is limited to activities conducted by the Permittee, its contractors, and subcontractors on the Hanford Site, and excludes activities conducted by others on lands covered by leases, use permits, easements, and other agreements whereby land is used by parties other than the Permittee. For example, the draft permit does not cover activities on state owned or leased lands, lands owned by the Bonneville Power Administration, lands leased to the Washington Public Power Supply System, US Ecology and the Ashe Substation, or similarly leased lands not under the management of the Permittee.

The Hanford Site covers approximately 560 square miles of semiarid land owned by the U.S. Government and managed by the Permittee. The Hanford Site is located northwest of the city of Richland, Washington, and is located within the Pasco Basin of the Columbia Plateau. The city of Richland adjoins the southeastern most portion of the Hanford Site boundary and is the nearest population center. The Hanford Site comprises an area of about 30 miles north to south, and 24 miles east to west. The Site has restricted public access and provides a buffer to those areas used for production of nuclear materials, waste storage, and waste disposal. Only about 6 percent of the land area has been disturbed and is actively used.

Activities on the Hanford Site are centralized in numerically designated areas. The 100 Areas, located along the Columbia River, contain deactivated reactors. The processing units are in the 200 Areas, which are on a plateau approximately 7 miles from the Columbia River. The 300 Area, located adjacent to and north of Richland, contains research and development laboratories. The 400 Area, 5 miles northwest of the 300 Area, contains the Fast Flux Test Facility previously used for testing liquid metal reactor systems. The 600 Area covers all locations not specifically given an area designation. Adjacent to the north of Richland, the 1100 Area contains offices associated with administration, maintenance, transportation, and materials procurement and distribution. The 3000 Area, located at the north end of Richland, was transferred to the Port of Benton and is therefore not covered by this permit. Additional administrative offices are located in the 700 Area in downtown Richland.

6.0 PROPOSED CONDITIONS

The conditions in the draft permit include discharge limitations, source water limitations, pollution prevention, and best management practices (BMPs) requirements. Discharge limitations included in the draft permit include a total maximum daily flow. This total flow is

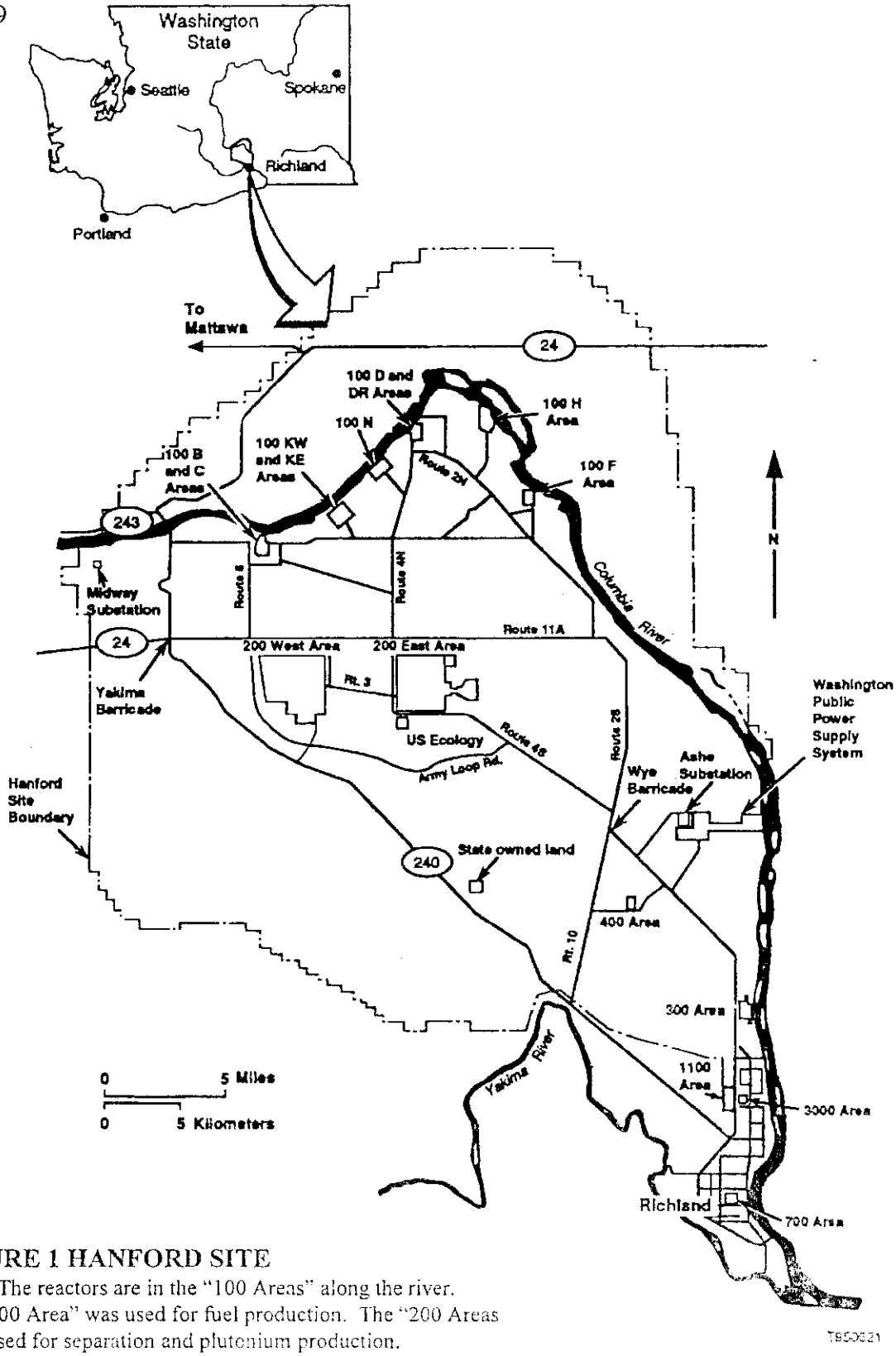


FIGURE 1 HANFORD SITE

Note: The reactors are in the "100 Areas" along the river. The "300 Area" was used for fuel production. The "200 Areas were used for separation and plutonium production.

the sum of all cooling water and condensate discharges for the Hanford Site for each day. The limit in the draft permit is based on limited historical data provided by the Permittee. The draft permit does not require flow measurement for any cooling water or condensate discharge. The flow limit was set on the high side of the historical range in order to confirm compliance with the total maximum daily flow limit.

Discharge limitations in the draft permit also include limits on each individual discharge. These discharge limitations are expressed as conditions on permit coverage. Each discharge must be less than 10 gallons per minute averaged annually and less than 150 gallons per minute instantaneously. Each discharge is required to meet GWQC. The permit does allow some exceptions to the above requirements.

The permit has discharge limitations on the contaminants in the discharges. All discharges should be below either the GWQC or below 110% of the contaminant level in the source water. Discharges that meet either of these levels in the effluent are clean and should not effect ground water quality. Discharges that do not meet either of these levels in the effluent are still required to meet these levels in the ground water and are required to not impact ground water quality.

The draft permit also contains source water limitations. The only source waters allowed to be used for the covered discharges by the draft permit are raw Columbia River water, raw groundwater, potable water (treated river or groundwater) and condensed water vapor from ambient air. The source waters are described in detail in the *State Waste Discharge Permit Application for Cooling Water and Condensate Discharges* (DOE/RL-96-41, Rev.0). The Source water meets WAC 173-200 GWQC, with a few exceptions. For raw Columbia River water Aldrin and Arsenic exceed the GWQC, and Benzo(a)pyrene, Bis(2-chloroethyl)ether, 3-3-Dichlorobenzidine, 1,3-Dichloropropene, 3-3-Dimethylbenzidine, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Heptachlor Epoxide, Hexachlorobenzene, N-Nitrosodiethylamine, N-Nitrosodi-n-propylamine, N-Nitrosopyrrolidine, N-Nitrosodibutylamine, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), O-Toluidine, Toxaphene, and Vinyl Chloride may exceed the GWQC. For potable water from Columbia River water, Aldrin, Arsenic, Bis(2-ethylhexyl)phthalate, Bromodichloromethane, and Chloroform all exceed the GWQC. For potable water from 400 Area groundwater, Arsenic and Bromodichloromethane exceed the GWQC. For 400 Area raw groundwater, pH, Arsenic and both total and fecal Coliform exceed the GWQC.

If new contaminants are discovered in a source water at levels above the GWQC, Ecology must be notified. If previously identified contaminants are detected at higher levels in the source water, either above the GWQC or a greater than 10% increase over previous levels, then Ecology must be notified. Ecology will use the new information to evaluate if the source water should still be used as source water, or if other action is needed.

The draft permit includes pollution prevention and BMPs requirements. The draft permit lists basic pollution prevention and BMPs that all discharges must follow. The draft permit also includes the requirement that the Permittee must submit a pollution prevention and BMPs plan. This plan, which must be approved by Ecology, will describe how cooling water and condensate discharges will be handled on the Hanford Site. Once the plan becomes effective, all cooling water and condensate discharges will be required to follow the pollution prevention and BMPs listed in the plan. If appropriate pollution prevention and BMPs are not described in the plan for a particular discharge, that discharge is not covered by the draft permit until the appropriate pollution prevention and BMPs are added to the plan.

7.0 MONITORING AND REPORTING

The draft permit does not require monitoring and reporting of discharges. No sampling and analysis of the source water or discharges is required by the draft permit. For the most part the discharges are small discharges. Sampling one discharge would tell little about the next discharge. Sampling all or most of the discharges would be prohibitively expensive. The permit application provided data to show that the source waters mostly meet the GWQC. The processes involved in cooling water and condensate discharges are not expected to add significant pollutants to the source water, as long as the proper pollution prevention and BMPs are followed. The BMPs plan could include sampling requirements for some discharges. The potential to pollute the environment is low if the proper practices are followed. Resources, that would be used for sampling these discharges, are better used elsewhere on the Hanford Site.

8.0 GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by Ecology. The General Conditions in this categorical permit have some slight differences from the standardized set. One General Condition that is part of the standardized set and is entitled "Penalties for Violating Permit Conditions" did not fit this permit and is replaced by General Condition G8, "Discharge Violations". Two other standard General Conditions, "Reporting a Cause for Modification" and "Plan Review Required", also did not fit this permit and are not included. Three other General Conditions that are not part of the standardized set of General Conditions, but are standard Special Conditions, are included.

Condition G1 requires responsible officials or their designated representatives to sign submittals to Ecology. Condition G2 requires the Permittee to allow Ecology access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G5 and G6 relate to permit renewal and transfer. Condition G7 prohibits the discharge of removed substances. Conditions G8 and G9 relate to discharge violations and payment of permit fees. Conditions G10 and G11 relate to record keeping requirements and noncompliance notification.

9.0 PERMIT STATUS

This is a new permit for unpermitted existing discharges. An application for a permit was submitted to Ecology in September 1996, and accepted by Ecology on December 23, 1997. The proposed draft permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. Ecology proposes the permit be issued for five years.

10.0 STATE ENVIRONMENTAL POLICY ACT (SEPA) COMPLIANCE

Cooling water and condensate discharges were not reviewed under the Washington State Environmental Policy Act (SEPA). As existing streams, these discharges are all exempt from the required SEPA determination. An Environmental Checklist was completed by the Permittee in July 1996. No Determination on the Checklist was made by Ecology's Nuclear Waste Program. No special SEPA compliance issues were identified. The addition of new streams, that are similar to the existing streams and that fall within the scope of this permit, would not trigger any SEPA issues.

11.0 PERMIT ISSUANCE PROCEDURES

Public Notice, Hearings, and Comments

Public involvement has been sought and required in the permit development and issuance process. The role of the SEPA in development of this permit is discussed in Section 10.0. The permit

development process is summarized as follows. A public notice of application for a State Waste Discharge Permit has been published in the Tri-City Herald, which is in the geographic area of the discharge. Mailings have also been made to interested persons.

The draft permit and fact sheet have been forwarded to the Permittee for comment on factual content at least 30 days before beginning the formal pubic review period. Only factual items are corrected in the draft permit and fact sheet. The Permittee is advised that the proposed permit conditions could be changed during the public review process. If the proposed draft permit is significantly different than the previous permit, the permit writer shall offer the Permittee and other interested parties an opportunity to meet. The purpose of the meeting is to explain new or changed requirements, receive comments on factual content, and discuss the practicality of compliance schedules.

Ecology then publishes the public notice of draft permit as a legal, classified advertisement, at least once, in the same major paper in which the public notice of application was published. A public notice of draft permit is also mailed to parties of record who are persons who responded to the public notice of application or who have otherwise requested to be kept informed. The comment period following a public notice of draft permit will normally be 30 days from the date of the latest notice.

Ecology will hold formal public hearings whenever the permit section supervisor deems there is sufficient interest and a likelihood of meaningful public comment on a permit. Ecology has decided not to hold a public hearing to receive public comment on this draft permit. If a public hearing were called for, the public notice would be published at least 30 days prior to the hearing and would also be mailed to parties of record. Established Ecology procedures exist for conducting the hearing. A response to the public comments received by Ecology at the hearing would be made by Ecology. Notices of permit issuance will be mailed by Ecology to parties of record. Notices of appeals of permits will be mailed to parties of record, as will decisions on appeals. Major modifications, suspension, and revocation of a State Waste Discharge Permit also requires public review and comment. Hence, public notices of intent and notifications to parties of record will be made.

Permit Modifications

This permit can be modified in whole or in part by Ecology for such reasons as: violations by the Permittee, obtaining the permit by misrepresentation or failure to disclose, material change in type of waste disposal, material change in the condition of the waters of the state, promulgation or revisions of regulatory standards, or errors in best professional judgment on the part of the permit writer due to data limitations in existence at the time of permit development. The Permittee can also request permit modifications which Ecology can accept, accept with modifications, or deny.

APPENDIX A - REFERENCES

State Waste Discharge Permit Application for Cooling Water and Condensate Discharges, U. S. Department of Energy, Richland, Washington, DOE/RL-96-41, Revision 0.

State Waste Discharge Permit Application for Hydrotest, Maintenance, and Construction Discharges, U. S. Department of Energy, Richland, Washington, DOE/RL-95-93, Revision 0.

Plan and Schedule for Disposition and Regulatory Compliance for Miscellaneous Streams, U. S. Department of Energy, Richland, Washington, DOE/RL-93-94, Revision 1.

Permit Writers Manual, Washington State Department of Ecology, Procedures for Writing Effluent Discharge Permits, Water Quality Program, Publication Number 92-109.

Water Quality Standards for Ground Waters of the State of Washington, Chapter 173-200 WAC, issued 10/31/90.

State Waste Discharge Permit Program, Chapter 173-216 WAC, issued 9/22/93.

Underground Injection Control Program, Chapter 173-218 WAC, issued 2/29/84.

Wastewater Discharge Permit Fees, Chapter 173-224 WAC, issued 1/10/96.

Washington State Law, RCW 90.48.

Hanford Federal Facility Agreement and Consent Order - 5th and 6th Amendment, February 1996, Washington State Department of Ecology, U.S. EPA, U.S. Department of Energy, 89-10 Rev. 4.

Consent Order No. DE-91NM-177 for the Permitting of Liquid Effluents Discharges Under the Washington Administrative Code (WAC) 173-216, December 23, 1991.

Examples of Pollution Prevention In Permits, Washington State Department of Ecology, Pollution Prevention Training, Spring 1995.

New State Permit Shells, Fact Sheet Shells, Legal Basis Sheets, and Application Packages for Industrial Discharges to Land, Washington State Department of Ecology, issued April 4, 1996.

Implementation Guidance for the Ground Water Quality Standards, Washington State Department of Ecology Publication #96-02, April 1996.

APPENDIX B - PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to issue a State Waste Discharge Permit to the Permittee. The draft permit contains conditions and limitations which are described in this fact sheet.

Public notice of application was published on December 23, 1997, and December 30, 1997, in the Tri-City Herald, to inform the public that an application had been submitted and to invite comment on the issuance of the permit.

Ecology will publish a public notice of draft permit in the March 8 and 9, 1998, Tri-City Herald, to inform the public that a draft permit and fact sheet are available for review (March 9, 1998, through April 7, 1998). Interested persons will be invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents will be available for inspections and copying between the hours of 8 a.m. and 5 p.m., weekdays, by appointment, at the Ecology office listed below. Written comments should also be mailed to:

Mr. David Dougherty, P.E.
Nuclear Waste Program
Washington State Department of Ecology
1315 West 4th Avenue
Kennewick, WA 99336-6018

Any interested party may comment on the draft permit within the 30-day comment period (March 9, 1998, through April 7, 1998) by writing to the individual at the above address. Ecology would hold a hearing regarding this permit only if one is requested during the comment period. Public notice regarding a hearing would be circulated at least 30 days in advance. Individuals expressing an interest in this permit will be mailed an individual notice.

Ecology will consider comments received in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information can be obtained from Ecology by contacting Mr. Dave Dougherty at (509) 736-3047, or by writing him at the address listed above.

APPENDIX C - GLOSSARY OF TERMS

Ambient Water Quality - The existing environmental condition of the water in a receiving water body.

BAT or BAT/AKART - Best Available Technology/All Known, Available, and Reasonable Treatment to prevent and control pollution.

Best Management Practices (BMPs) - Permit condition used in place of or in conjunction with effluent limits to prevent the discharge of pollutants. Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Bypass - The intentional diversion of waste streams from any portion of the collection or control systems.

Composite Sample - A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity - Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Cooling Water and Condensate Discharges - For this draft permit and fact sheet, the designation "cooling water and condensate discharges" refer to all discharges covered by the permit and described in this fact sheet, which include not only cooling water and condensate discharges, but also other miscellaneous discharges such as pump leaks, valve waste water, and water tank overflows.

Criteria - are the numeric values and the narrative standards that represent contaminant concentrations which are not to be exceeded in the receiving environmental media (surface water, ground water, sediment) to protect beneficial uses.

Distribution Uniformity - The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Ecologically Sensitive Area - For this permit and Fact Sheet, this refers to areas of the Hanford Site that are pristine and are susceptible to damage by a simple discharge of water (e.g., not the 200 areas). Only about 6 percent of Hanford has been disturbed and is actively used. The rest of the site supports many plants and animals accustomed to a semiarid environment. Discharges in these areas will avoid or minimize adverse impacts to species of concern.

Engineering Report - A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fact Sheet - A document prepared and issued with every permit which summarizes the activities and decisions on the permit and tells how the public may comment.

Grab Sample - A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Ground Water Quality Criteria (GWQC) - Refers, for this permit, to Water Quality Standards for Groundwater as listed in Table 1 of Chapter 173-200 WAC.

Industrial Wastewater - Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation - The highest allowable daily discharge.

Monthly Average - The average of the measured values obtained over a calendar month's time.

Owner and Operator - For this permit and Fact Sheet, both the owner and the operator refer to the U.S. Department of Energy.

pH - The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Parties of Record - People who have indicated an interest in a particular permit during the public notice of application and are kept informed of progress of the permit.

Pollutant - Dredged soil, solid waste, incinerator residue, sewage, garbage, sewage, sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollution Prevention - Source reduction; or protection of natural resources by conservation; or increased efficiency in the use of raw materials, energy, water or other resources.

Source Reduction - Any practice which: Eliminates or reduces the amount or use of hazardous substances, pollutants, or contaminants that enter a waste stream or are released into the environment, including fugitive emissions, prior to any recycling, treatment, or disposal; and thereby, reduces adverse public health and environmental affects associated with the release of such substances, pollutants, or contaminants.

State Waste Discharge Permit - A wastewater discharge permit issued under State authority (Chapter 90.48 RCW) to control the discharge of pollutants to waters of the State. Generally issued for discharges to ground water and for industrial discharges to a municipal sewage when that municipal system does not have a pretreatment program.

State Waters - Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater - That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit - A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Water Quality-based Effluent Limit - A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX D - RESPONSE TO COMMENTS

Washington State Department of Ecology
Responsiveness Summary for the Draft State Waste Discharge Permit
for Cooling Water and Condensate Discharges No. ST 4509
Issued to the U.S. Department of Energy (USDOE)
Hanford Site
Richland, Washington
May 1998

The following comments were received during the Public Notice of Draft Permit held for the draft State Waste Discharge Permit No. ST 4509. The public notice lasted from March 9 through April 7, 1998. No public hearing was held or requested.

The Permittee, USDOE, provided two comments on the draft permit. No other parties provided comments. Below is a listing of comments received (some are paraphrased for clarification or brevity). Each comment is followed by the corresponding response and permit change (or lack of change) and the Ecology justification for the change.

Draft Permit and Fact Sheet Comments and Responses

Comment #1: Permit condition S4.G has been revised since the last review to indicate that the permittee "shall" recycle, store, and reuse water to the maximum extent practical. Requested Action: Please revise condition S4.G to read as follows: "Efforts should be made to recycle, store , and reuse all water." Justification: USDOE believes the requirement to recycle and reuse the waste streams covered by this permit is unrealistic. The cost of recycling and recovering these streams is not justified by reduction in environmental impact. The potential environmental impact is very low from the types of streams covered under the permit such as the ice machine condensate. Additionally, the proposed revision would be consistent with the language contained in existing permits, e.g., State Waste Discharge Permit ST 4508, S4.G.

Response #1: No change made. The wording of this condition was changed after USDOE had seen earlier drafts of the permit, due to comments by Ecology's Water Quality Program. Ecology understands USDOE's concern about the cost of recycling and recovering these streams not being justified by the reduction in environmental impact, and Ecology is not attempting to require such recycling activities. The

rather standard wording of the BMP condition as written says that recycling "shall" be done, but only when "practical." If recycling of these streams can only be done at high cost with little or no environmental impact, then Ecology would consider that impractical, and would hope USDOE would agree. The suggested change in wording does not appear to clarify the condition. As written, the clear meaning is, if it is practical and makes sense to recycle water, then do it. If it is not practical, then don't do it.

Comment #2: Permit condition S5.A indicates that BMPs will be established for all discharges covered by this permit. Requested Action: Add the words "as appropriate" at the end of the following sentence. "The Permittee shall develop and implement a pollution prevention and BMPs plan for all discharges covered by this permit." Justification: There are some streams where the likelihood of contacting contamination is very small (such as lunch room ice machine overflow and pressure relief valves). There may be no need to apply BMPs or may be most appropriate to apply a graded approach to the implementation of BMPs.

Response #2: Changed the sentence in condition S5.A to read, "The Permittee shall develop and implement an appropriate pollution prevention and BMPs plan for all discharges covered by this permit." The USDOE comment seems to ask that some streams should be exempt from BMPs. All streams must implement appropriate BMPs. It is true, for many of these minor streams like ice machines, that current status may be all that is required to meet appropriate BMPs. Again, Ecology is not asking USDOE to do anything that does not make sense, but that does not relieve USDOE of the responsibility to implement appropriate BMPs for all streams.